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COLORADO

GRADUATE RESEARCH STUDIES

IN EDUCATION

1959 and 1960

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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COLORADO

GRADUATE RESEARCH STUDIES

IN EDUCATION

1959 and 1960

A BIBLIOGRAPHICAL LISTING
AND
SUMMARIES OF SELECTED STUDIES

☆

Prepared in Cooperation with
The Colorado Council on Educational Research
Under the Supervision of
The CCER Steering Committee

☆

COLORADO STATE DEPARTMENT OF EDUCATION
DIVISION OF RESEARCH AND STATISTICS
Theodore E. Albers, Director
Lee Ann Heckman, Research Assistant

Denver, Sept. 1962, 55 p.

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Special recognition should be given to the Colorado Association of School Administrators and the Colorado Education Association which are giving substantial financial and personnel service support to the project.

A special word of thanks is also due the officers of CCER and the members of the Steering and Publications Committees who supervised and assisted with the preparation of the manuscript. This recognition includes those persons who previously served on the Steering Committee but whose names are not shown in the publication.

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FOREWORD

This publication is the first in a series to be prepared cooperatively by the Colorado Council on Educational Research and the Colorado State Department of Education. The collection and dissemination of information about graduate studies should not only bring useful information to the attention of educational practitioners that otherwise might remain unused, but also, when coupled with a program to identify needed research should result in future graduate research of more practical value.

The Colorado Council on Educational Research was organized to assist in the stimulation, facilitation, coordination, and improvement of educational research activity in Colorado. In addition to acting in an advisory capacity to the Department of Education, the Council serves as a state-level sounding board and clearing house on matters relating to educational research. The Council does not intend to limit or prescribe in any way the research that individuals, institutions, or organizations wish to undertake. Any direction given by the Council will be in the nature of suggested cooperation among the voluntary members.

Among the initial objectives of the Council are: (1) to assist in collecting, analyzing, and disseminating significant research information, (2) to help determine the areas where educational research activity is most urgently needed, (3) to help inventory the educational research personnel and facilities available to the state, and (4) to aid in bringing the personnel and facilities to bear on urgent educational problems, in an appropriate and coordinated manner.

These objectives of the Council are consistent with the research program of the Department of Education, and it is hoped that continued cooperative effort will result in their full realization.

Byron W. Hansford, Commissioner
Colorado State Department of Education

Philip Rule, Chairman
Colorado Council on Educational Research

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Membership of Colorado Council on Educational Research ..... (Inside Back Cover)

INTRODUCTION

Need to Utilize Research Information

Research activity in education has been quite limited in the past, particularly in comparison to that carried out in other fields of endeavor. This has been true in Colorado as well as throughout the country, and the need for and value of increased and improved educational research has become widely recognized. At the same time, some authorities feel that the failure of educators to properly utilize existing research findings is almost as serious a shortcoming as the failure of society to provide sufficient funds for new educational research and development.

Since the beginning of their efforts six or seven years ago to establish some kind of framework for stimulating, coordinating, and improving educational research, Colorado educators have emphasized the need to collect, analyze, and disseminate significant research information and to encourage the application of valid research findings to educational practice.

The publication of *Colorado Graduate Research Studies in Education, 1959 and 1960* marks the beginning of one organized effort to bring a phase of educational research to the attention of those who may use it for the improvement of educational programs. Although a principal purpose of graduate research may be educational in nature, it seems reasonable to expect that some theses and most dissertations can add to educational knowledge. Dissemination of information about these studies should also serve to promote improvement in them.

Scope of This Publication

The first issue of *Colorado Graduate Research Studies in Education* covers the calendar years 1959 and 1960. It includes information on 393 master's and doctoral studies in or relating to education, collected from the following institutions of higher learning: Adams State College of Colorado, Colorado College, Colorado State College, Colorado State University, the University of Colorado, the University of Denver, and Western State College of Colorado.

The publication consists of four principal sections: (1) Introduction, (2) Bibliography of Colorado Graduate Studies in Education, 1959 and 1960, (3) Summaries of Selected Studies, and (4) Author Index.

Limitations

It should be understood that an initial attempt to advance a project of this nature is more than ordinarily susceptible to the possibility of inaccuracy, incompleteness, misdirection, and other shortcomings. In view of plans to make this an annual project, readers are particularly requested to submit their comments, suggestions, and other useful information.

Classification Categories

A review of other similar publications of national scope revealed numerous categories into which research studies are classified. The ones used in the bibliographical section of this report are based on those used elsewhere and on what seemed most appropriate with reference to the studies involved. It should be noted that it was not always easy to determine to which classification a particular title should be assigned. In some instances, therefore, the classification was unavoidably arbitrary.

Suggestions in Using the Publication

The Table of Contents refers to most information included in the publication and indicates where it may be found. It is suggested that the reader scan this page to familiarize himself with the general content and organization of the report.

All categories into which the studies are classified in the bibliographical section are shown in the Table of Contents. The page number after each category is the page on which the listing of titles in that category begins.

Categories which include most of the studies are: Psychology—61, Higher Education—40, Measurement and Evaluation—27, Industrial Arts and Vocational Education—24, Communication Arts—20, and Fine Arts —20.

The Author Index offers a convenient way of locating a particular study if the name of the author is known.

Summaries of Selected Studies

Officials of the institutions involved were requested to indicate several of their more important studies for possible inclusion in the selected summaries section. The general criteria suggested as a basis for making this selection were: (1) the pertinence and practical value of the study to the solution of what is felt are the state's most pressing educational problems, (2) the general applicability of the findings of the study, (3) the pertinence of the study in terms of the most widely considered suggested new emphases in education, and (4) the competence of the researcher and the quality of the research.

Officials of only four of the seven institutions for which information is included reported in writing studies they felt were appropriate for summarization. The summaries included in this section of the publication, therefore, are not necessarily those recommended by the institutional officials.

Further Information Concerning the Studies

An effort is being made to establish a central file in the Department of Education of abstracts of graduate studies completed in Colorado institutions of higher learning. In some instances other special summary information is on hand. Photocopies of the abstracts and other information available will be furnished on request.

Ordinarily, copies of complete studies may be obtained on loan from the institution in question. In some instances, microfilm or xerox copies are available for purchase from University Microfilms, Inc., Ann Arbor, Michigan.

Future Plans

It is planned to continue to collect and disseminate bibliographical and summary information on graduate studies in education and, as soon as possible, to enlarge the project to include information on faculty, institutional, school district, and other similar research, as appropriate. As this occurs, there may develop the need to be more selective in what is presented.

During the summer of 1962, graduate study information will be collected for the years 1957, 1958, 1961, and part of 1962. The balance of 1962 will be collected after the end of the year. This, with the information included in this report, will provide a record of Colorado graduate study in education for the past six years.

Information for 1957 and 1958 will be disseminated in a separate report to be available in the fall of 1962. The data for 1961 and 1962 will be prepared for publication as early in 1963 as possible. Although information will be collected and processed each year, tentative plans call for its publication on a biennial basis in the future.

Other Sources of Information

Among other sources of information on graduate research are: (1) *Research Studies in Education*, a subject and author index of doctoral dissertations, reports and field studies published annually by Phi Delta Kappa, Bloomington, Indiana; (2) *Dissertation Abstracts*, published monthly by University Microfilms, Inc., Ann Arbor, Michigan; and (3) *Master's Theses in Education*, edited annually by H. M. Silvey, State College of Iowa, Cedar Falls, Iowa.

A list of institutions publishing abstracts of doctoral dissertations is given in the "Research Abstracts and Bibliographies" section of the January, 1952, issue of the *Journal of Educational Research*.

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Summaries Of Selected Studies

ADMINISTRATION AND FINANCE

MAWHINNEY, PAUL E. Basic Principles Which Undergird School Board Policy. University of Denver. Doctoral Dissertation. 1959.

Purpose: To determine the basic principles which undergird school board policy, two major questions were confronted by the investigator: (1) What basic principles support and strengthen the body of policy? (2) What common frame of reference on policies and principles can be developed for school systems in general? A significant companion question was concerned with the imperative areas of school board policy: What are they and how does one determine them?

Procedure: From the literature, ten relevant but independent sources agreed that eleven broad areas of school board policy were imperative to effective school management. An original survey of the contemporary policy handbook revealed many other such areas. Ultimately more than forty imperative areas of policy were identified under seven broad categories.

An exhaustive review of the literature made it possible to determine the basic principles which undergird school board policy. This was the creative part of the study.

To verify the selected principles, a panel of seven men distinguished for their work with boards and board problems was invited to criticize the list and indicate those principles which they judged to be imperative.

A pilot study was conducted with the Grosse Pointe, Michigan, Public School System as the subject. Its objective was to test both the imperative policy areas and the basic principles undergirding them. To this end, actual policies and practices were appraised against the frame of reference.

Findings: Ultimately more than forty imperative areas of policy were identified under seven broad categories:

1. Policy related to all school employees—contracts, employee organizations, extra duty, in-service training, keeping staff fully informed, leaves of absence, professional growth, promotion, qualifications for employment, responsibilities, retirement, salaries, paydays, deductions, school organization, school philosophy, substitutes, suspension and dismissal, transfer, vacations.
2. Policy related to pupils—attendance, behavior, suspension and expulsion, requirements and standards.
3. Policy related to teachers—changes in curriculum, teaching devices and supplies, textbooks.
4. Policy related to administrative staff—separation of functions, legal

obligations, limitations.

5. Policy related to board of education—legal obligations, limitations, meetings, organization, relationships with self and others, responsibilities, use of others in policy formulation.
6. Policy related to business and finance—legal obligations, limitations, pay roll, purchasing, requisitions, responsibilities.
7. Policy related to community—lay participation, open and scheduled meetings, public use of school facilities, and release of public information.

Eighteen basic principles emerged: (1) policy should be formulated by representatives of all groups affected by its adoption, (2) policy should be written simply and briefly in broad, positive terms, (3) policy should be officially adopted by the board, recorded, and notice given to those school personnel and others affected by its adoption, (4) policy should be reviewed periodically and revised or revoked whenever conditions warrant such action, (5) policy should be compatible with the body of extant policy, (7) policy should indicate practices which are morally defensible, (8) policy should demonstrate faith in the democratic traditions and processes, (9) policy should reflect the philosophy of the school system for which it is formulated, (10) policy should indicate that the most promising educational practices are being followed, (11) policy should recognize the professional nature of education, (12) policy should define the qualifications, responsibilities, and privileges of each personnel category, (13) policy should indicate the education provisions and regulations for students, (14) policy should distinguish clearly between board and administrative responsibilities and indicate the board's willingness to act through the executive head of the school system, (15) policy should define the use of lay participants in the solution of school problems, (16) policy should qualify the public use of school facilities, (17) policy should express the board's attitude toward scheduled and open meetings, (18) policy should be kept within the framework of the state legal code.

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THRASHER, JAMES MARTIN. Factors Contributing to the Success of State Aid Programs for Capital Outlay. Colorado State College. Doctoral Dissertation. 1960.

Purpose: To develop criteria by which the existing programs of state aid for capital outlay to local school districts might be evaluated, and might serve as a point of departure in the formulation of new programs of state aid for capital outlay, or serve as a guide in the modification of existing programs.

Procedure: The state administrators of the capital outlay assistance programs were contacted in twenty-seven states. These state administrators furnished basic information about their programs, stated the advantages and disadvantages of the existing program they were administering, and furnished the names and addresses of ten local school districts that had participated in the capital outlay aid program in two or more building projects in the past five years.

The local school administrators in the ten districts for each state whose names were supplied by the state administrator were contacted regarding their experience in working with the state capital outlay program and were requested to furnish information.

The laws enacting and the rules and regulations that have been adopted for the administration of the programs included in the study were analyzed for basic similarities and differences in each of the categories of grant, loan, or building authority programs.

The effectiveness of the existing programs was assayed according to specific factors.

The statements of the local school administrators as to the relative advantages and disadvantages were compared to the statements of the state administrator on advantages and disadvantages.

The provisions of the twenty-three state aid programs for capital outlay assistance were examined in terms of the general principles of a sound program as found in the literature.

Mort's "Tests of Wholesomeness of Fiscal Policy" were applied to test the criteria or to amplify the development of the criteria that were formulated out of the seven major areas of concern.

Conclusions: The general conclusions concerning the twenty-three state aid programs for capital outlay reached as a result of this study are: (1) there are extensive state controls operating in all programs either through the law enacting the program or the rules and regulations established by the agency administering the program, (2) the majority of the capital outlay aid programs that have made available any significant amount of funds to local school districts have relied on bonding as the major source of revenue with which to implement the program, (3) the state assistance programs for capital outlay are in general underfinanced as exemplified by the number of districts eligible for aid that are on split session and/or utilizing facilities not originally designed for school housing use, (4) the most effective aid programs for capital outlay are organized in such a manner as to provide extra, over and above the regular assistance, for the emergency type situations in local school districts, and (5) the consultant service extended to the local school districts in school facility planning is an asset in the state aid program.

Conclusions reached concerning the specific forms of state aid programs, grant-in-aid, loan or building authority are: (1) the state aid programs based on grant to local school districts are meeting the needs more adequately than are the other two forms of state assistance, (2) the programs based on loans only to local school districts are not meeting the needs for school plant facilities and are placing a burden on local school districts to meet repayment provisions, (3) the loan programs are providing a source of funds for facilities financing at a lower interest rate than could be obtained by local districts elsewhere, (4) the building authority programs are often, in reality, a special form of grant-in-aid assistance to local school districts as evidenced by the annual disbursement of funds to local districts to assist in meeting the lease-rental obligations.

The conclusions in the form of the criteria developed for the evalua-

tion of existing state aid programs for capital outlay, or the point of departure for the formulation of new programs, or the modifications of existing programs are: (1) the state capital outlay assistance to local school districts should be a continuous grant-in-aid as a regular part of a minimum foundation program. (2) the state department of education (or state educational agency) should furnish leadership and exercise an oversight function in the areas of (a) new facilities that will serve the best interests of school district reorganization. (b) new facilities that will serve the curriculum plans made by the local district, and (c) new facilities that meet the minimum standards for health, safety, and education of pupils. (3) state and local sources of revenue should be from current revenues insofar as is practical. (4) the building program should be financed from a combination of state and local funds with some tax (or bonding) leeway allowed the local district over and beyond the requirements for state assistance. (5) state aid for capital outlay should be distributed on an equalization plan that balances local ability to raise funds with the school plant needs of the district. (6) all local districts should be eligible to participate in the building aid program according to their need, and provision made for an extended aid participation on the part of the state in emergency situations. (7) the state educational agency responsible for the state aid program for capital outlay should make a comprehensive and periodic review of the state aid program in terms of its ability to meet the needs for school facilities in the local school districts of the state.

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ELEMENTARY EDUCATION

FLOYD, WILLIAM DOWNING. An Analysis of the Oral Questioning Activity in Selected Colorado Primary Classrooms. Colorado State College. Doctoral Dissertation. 1960.

Purpose: To reveal the current and prevalent oral questioning practices for primary teachers and pupils in forty selected Colorado public elementary schools. More specifically, answers were sought to these questions: (1) What is the teacher-pupil activity ratio as measured by the number of questions asked and the number of words spoken? (2) What is the quality of the questions asked by the teachers and the pupils? (3) What types of questions are asked by the teachers and the pupils? (4) Are there evidences of a nervous tension as a result of the questioning pace set by the teachers? (5) Do the selected primary teachers employ oral questioning techniques effectively? (6) Do the selected primary teachers strive to keep alive the natural questioning tendency of the pupils?

Procedure: The data used in the investigation were collected from forty primary classrooms within a sixty-mile radius of Greeley, Colorado, representing forty "best" teachers and 1,071 pupils. The schools were drawn on a random sample basis and were therefore representative of the schools in the same general area of the state. Thirty classrooms were visited for

hour-long periods during which all oral discourse was recorded on tape. Ten classes were visited for entire day sessions in order to determine the question and answer stimulus in the aggregate. The gross data—the thirty hour-long tapes, the 416 pages of transcript, the information from the objective observation forms, and the information from the all-day visitations—were subjected to six separate analyses.

The gross data were treated in the following manner: (1) the number of words spoken or read and the number of questions asked were counted and pupil-teacher activity ratios determined, (2) the quality of a stratified sample of questions asked during the hour-long visitations was determined by comparing each of the questions with the eleven characteristics of an efficient oral question as determined by the investigator after an extensive search of the related literatures, (3) the questions asked by the teachers during the hour-long visitations were classified according to the Gatto question classification plan as revised and expanded. The questions asked by the pupils during these same periods were classified according to a system devised by the investigator, (4) the evidence of nervous tension was determined after an examination of the data for signs of restlessness, boredom, fatigue, and other indications of the presence of tension on the parts of the teachers and pupils, (5) the teachers' skill as oral questioners was determined by comparing their practices with the characteristics of an efficient oral questioner as determined from a thorough search of the literatures, (6) the extent to which the sampled teachers kept alive the natural questioning tendency of their pupils was determined by finding answers to six sub-questions: Were pupil questions solicited by the teachers? What types of questions were asked by the pupils? Were the pupil questions spontaneous or teacher-bid? Were pupil questions actually discouraged? Were opportunities to ask questions provided? How many questions were asked by the pupils?

Conclusions: The following limitations should be considered before drawing conclusions: (1) the possibility exists that the recording equipment and the investigator's presence might have operated as factors influencing the results of the study, (2) the fact that these "best" teachers were selected by the principals of the schools visited and the bases upon which selections were made are not known, (3) the data represent fewer than seventy-five hours of classroom activity.

Subject to the limitations listed above and the usual dangers in making generalizations, the following conclusions were drawn from the data of the present study:

1. There was not a balance between the amount of pupil and teacher activity in these classrooms. In fact, the teachers tended to dominate the oral activity and seemed to be doing most of the work of the class hour instead of directing and motivating the pupils in the doing.
2. The questions asked by these teachers and pupils were generally of a very low quality. It seemed that the teachers unintentionally encouraged slovenly habits of thought and fostered guessing. The brevity of the pupils' answers suggests that the questions called for the offhand use of judgment.
3. The fact that so many of the questions asked by the teachers required

the use of memory in answering, suggests that memory is of major significance and might, in fact, be the goal of the instruction.

4. A minimum amount of real interest or serious thought was displayed by the pupils as shown by the small number and kind of questions they asked.
5. The teachers seemed to be acting as cross-examiners who often ignored the needs, the interests, and the capacities of the pupils and demanded short factual answers to short factual questions.
6. A certain amount of undesirable tension seemed to exist in these classrooms. Some of this tension might be at least partially attributable to the rapid questioning pace and the manner of the teacher in employing oral questioning techniques; however, no facet of the present study allows a conclusion regarding the danger of this tension to the well-being of the pupils.
7. The skill of the participating teachers as oral questioners was not highly developed. In fact, there was considerable evidence to the effect that the oral question was not generally wisely and *thoughtfully* used. It should be pointed out, however, that the faults disclosed are probably not to be attributable to any intrinsic weakness in oral questioning as an instructional method but rather to the lack of skill on the part of these primary teachers.
8. The teachers labored more zealously to teach answers than to stimulate pupil questions; hence, the pupils' natural spirit of inquiry was not being fostered, encouraged, or expanded.

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FINE ARTS

JOHNSTON, JAMES S. The Development of a Systematic Curriculum for the Beginning Clarinetist. Western State College. Master's Thesis. 1959.

Purpose: To organize an effective training curriculum for students of the clarinet, and to introduce to music instructors analyses of selected materials which will aid in gaining the maximum results of disciplined musicianship. Through this study, information provided by outstandng music educators can be shared with any band director or instructor wishing to develop proficient clarinet players.

Procedure: In order to gather data, questionnaires requesting information about preferred clarinet method books for beginners were sent to twenty-two band directors, private clarinet teachers, and selected professional musicians. The determination of qualified method books was based upon seven principal clarinet playing techniques: embouchure, tone quality, breath control, tonguing, slurring, basic finger techniques, and general musicianship. Concurrent research was conducted to ascertain the necessary elements in the development of each of these skills.

Findings and Recommendations: In relationship to the seven basic tech-

niques listed above, with the inclusion of the author's recommendations, the following conclusions are among those compiled from the returned seventy-seven per cent of questionnaire data requested:

1. *The Belwin Elementary and Intermediate Band Methods* and the *Belwin Band Series* were the two method books rated most highly for the achievement of competency in the seven basic techniques. Fifty-three per cent of the questionnaires indicated the utilization of these books.
2. Of the fifteen suggested methods for a private study curriculum, one received the majority of recommendations—the *Rubank Advanced Method*. This particular book was chosen under the assumption that the pupil would have had preliminary class instruction.
3. The author suggests the use of more than one clarinet book. This plan would make possible the student's exposure to various exercises designed to accomplish the same purpose.
4. Since no method book covers every aspect of clarinet playing, it is advisable to supplement the curriculum with outside sources, such as audio-visual aids.
5. Ideally, the music instructor should establish a schedule of separate clarinet classes in his instrumental music curriculum.

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GIFTED CHILDREN

FAVAREAU, GEORGE A. Identification of Tools and Techniques for the Guidance of the Gifted. University of Colorado. Doctoral Dissertation. 1959.

Purpose: To ascertain which tools and techniques are most effective for the guidance of the gifted. The first part of the study had to do with the use of general tools and techniques in the area of (1) identification, (2) personality evaluation, and (3) home background. The second part dealt with the extent of use of special tools. The third part explored the degree of use of methods, techniques, and services. The fourth part examined opinion and consisted of two open-end questions: (1) In what ways does guidance of gifted students differ from guidance of every pupil, and (2) What new tools and techniques are essential or highly desirable for the guidance of the gifted?

Procedure: The procedure involved the development and distribution of a questionnaire which was sent to two different groups. Members of one group, the authorities in the field of guidance, were located throughout the United States. The second group was composed mainly of counselors working in the surrounding metropolitan area of New York City, but did not include counselors in New York City. A few questionnaires were also sent to counselors in schools in other areas of the United States.

Findings and Recommendations: In the area of general use of tools for

the identification of the gifted, the four techniques greatly used by counselors and guidance authorities were: (1) group tests, (2) teacher observations, (3) interviews with students, and (4) cumulative records. Counselors and guidance authorities expressed little or no use of (1) home visitations, (2) projective tests, (3) sociometrics, and (4) controlled observations for the identification of the gifted. The tools used extensively for personality evaluation were (1) interviews with students, and (2) teacher observations. The tools rarely used were (1) controlled observations, (2) sociometrics, (3) home visitations, and (4) group tests. For the gathering of home background information, the respondents used extensively the tools of (1) interviews with students, and (2) interviews with parents. The tools seldom used were (1) group tests, (2) sociometrics, (3) controlled observations, (4) individual tests, (5) rating scales, and (6) projective tests.

The extent of the special use of tools for the guidance of the gifted was limited. No tools were used exclusively with the gifted. The trend was to use the following tools more and differently with the gifted: (1) individual tests, (2) interviews with students, (3) interviews with parents, and (4) teacher observations. The findings concerning the degree of use of methods, techniques and services indicated a greater use of non-directive counseling with the gifted and also of educational information. Regarding the question as to whether guidance of the gifted involves special problem areas not as likely to be encountered by "every pupil," the respondents suggested that (1) there is a greater need for educational guidance, (2) vocational planning is more complicated because of multipotentiality, and (3) the clarification of "self-concept" is especially difficult.

The new tools and techniques suggested as being essential or desirable for the guidance of the gifted were (1) use of the electroncephalograph to measure intelligence. Suggestions were made as to the need for (1) higher ceiling intelligence tests with calibrated age symbols, and (2) an instrument to measure levels of aspiration and motivation.

On the basis of the findings of this study, it is recommended that (1) guidance services be expanded into more comprehensive pupil personnel services wherever feasible, (2) greater and more effective use should be made of case conferences, (3) more experimentation is needed for developing better tools for identifying the gifted, and (4) more time should be provided for counseling.

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HEALTH AND SAFETY

HEADLEE, JAMES L. The Worland, Wyoming, Rheumatic Fever Prevention Program—A Two-Year Study. Adams State College. Master's Thesis. 1959.

Purpose: This thesis was written as a study of the first two years of

operation of one of many school-centered rheumatic fever prevention programs in the state of Wyoming and was reported primarily from the public school viewpoint rather than from the viewpoint of a medically trained person. Its purpose is fourfold: (1) to describe to interested persons the various aspects of the rheumatic fever prevention program in Worland, Wyoming; (2) to present the results of a two-year operation of the rheumatic fever prevention program in a manner that will allow evaluation of the data analysis; (3) to obtain and develop rheumatic fever and "strep" infection incidence information for the Worland school population; (4) to develop a handbook for the rheumatic fever prevention program.

Procedure: The procedure of developing this report was based primarily upon personal observation, culling of information and research, compilation and statistical analysis of the data of a related survey, and a limited evaluation of the program followed by a final evaluation of the study centered upon the program. An aggregate file consisting of an individual card file of children who have had positive cultures, a statistical file covering the two years of study, general information concerning rheumatic fever, correspondence relating to the program and this study, pamphlets from the American Heart Association, and the questionnaires and summary utilized in the survey of Worland school population, served as a diary of information. Anecdotal items made during the first year of study were compiled into a preliminary paper and have been incorporated into this report.

Findings: After two years of study, it was concluded that:

1. The Worland, Wyoming, Rheumatic Fever Prevention Program was apparently successful in reducing the incidence of rheumatic fever in the school population covered by the program—possibly by as much as 30 per cent.
2. Children with rheumatic fever history were given protection from secondary attacks and were guarded from other "strep" diseases.
3. Four hundred thirty-five cultures were found to be positive Strep A in the 188 days of program operation; the greatest number of positive cultures was found in grades five and six. Of the total positive cultures for the two-year period, sixty were repeat infections.
4. Treatment was willingly received in all but one case.
5. Socio-economic levels did not seem to have a bearing on the number of positive cultures and individual school and community location did not seem to be a factor in the occurrence of "strep" infections.
6. The "strep" season in Worland, as evidenced by the program results, was found to be in the months of November through February.
7. Many children, due to the program, received necessary medical attention—in some cases, for the first time.
8. The program had value through increasing community knowledge of rheumatic fever and of the other "strep" diseases and improving the health consciousness of teachers and parents.
9. Program literature aided in helping teachers and parents recognize the symptoms of active rheumatic fever.
10. Working together for the good of the school children, parents and teachers increased mutual understanding and respect and improved

ommunity relationships. The Worland, Wyoming, Rheumatic
n Program served as an ideal and worthwhile Parent-
on project.

11. vels in the community was the keynote of the
su nd operation of this program.
12. The epresentative of the Wyoming type of rheu-
matic atic program centered in schools, appears to the
writer as a ue type of school health service.
13. It is doubtful if such a program could operate successfully without the sanction and support of the State Health Department and without the sponsorship and financial assistance of an interested organization such as, in this instance, the Wyoming Heart Association, Inc.
14. The possible value which could be placed on the throat culturing over the two-year period of operation of the Worland program would be in the neighborhood of $100,000 worth of free health service. If this program were conducted on a commercial basis, it would be prohibitive for the Worland Community; however, under the particular plan studied, the cost on the local level was less than $1,000.

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HIGHER EDUCATION

FERGUSON, GERALD D. Influence of Freshman Roommates on Each Other's Grade-Point Averages. Colorado State University. Master's Thesis. 1959.

Purpose: To determine and evaluate the influence of roommate relationships upon freshman grade-point averages.

Procedure: To facilitate the accomplishment of the stated purpose, the problem was transposed into four specific questions:

1. In general, are grade-point averages of roommates more alike than those of non-roommates?
2. Can the relationship that is found be attributed to pre-selection on a basis of ability?
3. Does the degree of intimacy of roommates have an effect on the extent to which grade points are alike?
4. Does the ascendance-submissive combinations of roommate personalities have an effect on the extent to which grade-point averages are influenced?

Data used to examine these questions were provided by 212 pairs of male, first-quarter freshman roommates residing in the Colorado State University residence halls during the fall of 1957-58. Measurements and evaluations were determined by: (1) the "College Ability Test" total score which measured ability, (2) the ascendancy scale of the "Guilford-Martin Inventory of Factors GAMIN," which served as a basis for forming the ascendant-submissive roommate combinations of A-A, A-S, and S-S, and (3) a scale designed especially to measure for this study the degree of

roommate intimacy. The degree of similarity of roommates in regard to grade-point averages and ability was described through intraclass correlation, dissimilarities between roommates and the degree of roommate intimacy were translated into a product moment correlation.

Findings: It was hypothesized that the influence of roommate assignment on scholastic achievement is a relatively minor factor. An intraclass correlation of .19 with respect to college ability among all roommate pairs was the only significant statistical relationship; therefore, this hypothesis was developed from these findings:

1. Grade-point averages were no more alike than those of random pairs.
2. With the present method of room assignment, there is a slight preselection on the basis of ability.
3. The degree of intimacy was not related to the extent to which grade-point averages of roommates were alike.
4. The similarity of roommate grade points was no greater for some A-S combinations than others.

* * * *

KOPLIN, ELDON ARNOLD. A Study of the Structuring, Functioning, and Staffing of Governing Boards Which Have Jurisdiction Over More Than One College. Colorado State College. Doctoral Dissertation. 1960.

Purpose: To describe the structuring, functioning, and staffing of governerning boards which have jurisdiction over more than one college, at least one of which either is a teacher college or was originally created primarily as a teacher training institution. The increase in the complexity of higher education and in the enrollment of higher education institutions rendered a need for such a report.

Procedure: The methods of study used to provide a descriptive analysis of the extent to which commonalities and differences existed among the structuring, functioning, and staffing of the selected boards consisted of several steps. First, the methodological problems of the investigation—the problem of obtaining factual information, controlling personal bias, and providing for validity—required description. The writer used three main sources of data—books, pamphlets, and articles from periodicals pertaining to higher education; interviews; and questionnaires.

The initial questionnaire of fixed responses was developed only after selected informants, officials of Colorado State College and representatives of the Board of Trustees of Colorado State College, were interviewed and background literature was carefully reviewed. The questionnaire measured the perceptions of board members with the assurance of complete anonymity. The state superintendents of public instruction of the involved states—Arizona, Colorado, Georgia, Illinois, Indiana, Kansas, Minnesota, Mississippi, Nebraska, Oklahoma, Rhode Island, South Dakota, Texas, and Wisconsin—provided the names and addresses of one hundred thirty-seven board members and executive secretaries or directors. They received copies of the questionnaire consisting of one hundred twenty fixed response

type questions to be answered by check marks. Delinquent respondents later received follow-up questionnaires.

To solve the major problem, the writer analyzed the data by making separate straight tabulations of the responses of all items presented in the questionnaire and by presenting cross tabulations on certain questionnaire items with respect to board members' perception of role.

Findings: Tabulations showed that the typical governing board of this nature consisted of eight men and one woman or nine regents selected by the state governor with the approval of the state senate or legislatures. Findings also revealed that the most frequently occurring occupation among the answering board members was that of law with education and business and finance ranking second and third, respectively. The respondents were highly educated. While only six per cent had less than a college education, ninety-four per cent of them had some college training and eighty per cent had obtained academic degrees.

The average trustee voted a partisan ticket in general elections and voted in party primaries. However, he did not attend political conventions on the county, state, or national levels or campaign actively for candidates for public offices. While religion, occupation, status as an alumnus, sex, age, and race rarely influenced the selection of board members, residence and political affiliation usually did.

The governing boards of ten states had full-time executive secretaries. Arizona, Colorado, and Rhode Island hired part-time secretaries, and Indiana employed no staff assistants. The involved governing boards also hired budget officers, auditors, executive advisors, assistant secretaries and stenographers, research men, accountants, architects, and reporters. These staff assistants were selected by the boards and had training mainly in educational administration and business administration. Some had studied law, engineering, and architecture as well as business and education. The executive secretary notified members of meetings, recorded the minutes of the board meetings, sent copies of the minutes to board members, took care of board correspondence, had custody of the seal of the institutions, and issued information to the press in a majority of the boards investigated. Five states reported that he also acted as the legal agent concerning the financing of schools.

Trustees delegated decisions concerning the assignment of personnel, minor capital outlay improvement, curriculum changes, major building programs, salary policies, and budget to college administrators, subject to review, thus actually retaining the right to determine final judgments. State laws limited board decisions about major building programs and budget, while the recommendation of college presidents influenced all of the discussed decisions.

Board meetings, on the average, rarely proved to be difficult or inconvenient to attend because of involved distances or time. Upon examining the self-perception of role of board members, board problems appeared not to consume too much but adequate time in regular meetings, committee meetings, or individual studies. Businesses did not interfere with governing board membership obligations nor did board meetings infringe

upon personal business fulfillment. Board policies remained unrestrained by legislative committees. College decisions called for the advice of college presidents before being made. All board members displayed utmost cooperation concerning college problems and stressed concern for problems of state higher education as a whole, rather than on a local basis. They relied on executive committees and felt that their boards should not include faculty members. A majority of members thought they spend equal time on board problems and in board discussions compared to other members, they have a major role in making decisions, they are adequately informed about problems to be solved at meetings, and they should have overlapping terms.

Significantly, the employment or non-employment of a full-time or part-time executive secretary made no difference as to time spent at regular and committee meetings or in individual study, board member cooperation, reliance on executive committees, or the adequacy of being advised of problems to be dealt with at board meetings before they occur. Likewise, the type of training of the staff assistants, the educational background of board members, the occupational status of board members, and the method used for notification of meetings affected none of the perceptions mentioned above. The method of selection of board members failed to influence the degree to which trustees feel that board policies are restrained by state departments of education regulations or legislative committees.

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MEASUREMENT AND EVALUATION

HAWES, MARGERY V. A Comparison of Two Methods for Determining Difficulty in the Multiple Choice Test. Master's Thesis. 1959.

Purpose: The objective of this study was to devise and evaluate a measure of item difficulty which considered the individual's different responses to the item.

Procedure: A multiple-choice vocabulary test composed of 60 items, each with 15 alternatives, was administered to 231 Colorado State University students registered for general psychology classes during the winter and spring quarters of the 1958-59 academic year. Attached to the test was a special tab response sheet devised so that those taking the examination would be aware of whether they had the right answer after making a choice. The students were instructed to disregard the usual procedure by responding to each item until the correct answer had been selected.

An analysis of test results was made by using two methods of computation: (1) obtaining the proportion of the group that answered the items correctly on the first try, and (2) counting the number of individual responses made to each item and figuring the median of responses made by all individuals. Reliabilities of these measures were evaluated by dividing the total sample of over-all test scores into two groups matched for over-all test scores, and by computing the correlation between similar measures

of difficulty over items. A scatter diagram showing the relationship between individual and group item difficulty was made and the correlation ratio, eta, was used to describe the degree of similarity.

Findings: Through a computation of the correlation between this test and similar measures of difficulty over items, the reliability was found to be .96 for the group item difficulty measure and .98 for the individual item difficulty. A determination of the degree of similarity in the scatter diagram was .96. On the basis of these results, it was concluded that: (1) counting the number of responses required to obtain the correct answer would provide a useful index for obtaining the difficulty of response for an individual, and (2) for practical purposes in test development, it would make little difference whether the group or individual item difficulty index was used.

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SECONDARY EDUCATION

MATHES, GEORGE EDWARD. The Student Council in American Secondary Schools. University of Denver. Doctoral Dissertation. 1959.

Purpose: The purpose of this study was to analyze the aims, patterns of organization, and activities of student councils in selected American secondary schools.

Procedure: A review of current literature provided the background necessary to understand the student council in the American Secondary school. General principles relative to student council purposes, organization, and activities were developed. These were used as a frame of reference for interpreting the data.

A questionnaire was developed and sent to 2,827 schools which were members of the National Association of Student Councils. Returns were received from 1,663 schools. The data obtained through the questionnaire were reported and treated statistically in four sections: (1) general information, (2) aims and objectives, (3) administration and organization, and (4) projects and activities.

Findings and Conclusions: School enrollment in the participating schools ranged from less than one hundred to more than two thousand pupils. Nine out of ten schools participating in the study were public secondary schools. Approximately 60 per cent of the schools were three- or four-year senior high schools, 25 per cent were six-year junior-senior high schools, and 10 per cent were either two- or three-year junior high schools. Most of the schools had been in operation for twenty-five or more years.

One of the key questions asked respondents to indicate whether their primary purposes were largely administrative, educational, or both administrative and educational. The data relative to this question revealed that 7.7 per cent were administrative, 20.8 per cent educational, and 71.5 per cent both administrative and educational.

Findings relative to administration and organization included: (1) the

student council was found to be a relative newcomer to the secondary school. A majority of the councils had been organized for fifteen years or less; (2) the student council advisor was appointed by the principal in a majority of the schools. Usually the adviser was a classroom teacher, and the responsibility was a part of the teacher's regular teaching load. The data revealed that most of the sponsors were relatively inexperienced in student council work; (3) membership in national, state, and local associations of student councils was more characteristic of educational type councils than administrative type councils; (4) academic credit was given to students for council participation in very few schools. Schools having educational type councils tended to give credit about twice as frequently as did schools claiming to have administrative type councils; (5) only 10 per cent of the schools reported that their student councils participated in a student court. More than five times as many administrative type councils as educational type councils claimed to have a student court as part of their council program; (6) practically all of the schools provided for the principal to retain veto power over the council. This authority was used in only one school in five during the year of study; (7) practically all schools operated under the provision of a written constitution, although the means for developing the constitution varied considerably; (8) the methods used to nominate and elect student council officers and representatives varied. Generally, more than one person was nominated for each council position. All regularly enrolled students could vote for council representatives and officers in a majority of schools. Procedures were more formal for student council officers than for representatives. Provision was generally made for the recall of student council members; (9) the typical student council was composed of officers elected by the entire student body and representatives elected from the classes, homerooms, or organizations; (10) in general, the minimum scholarship requirements were higher for student council officers than for representatives; (11) in general, citizenship requirements for council members were higher than scholastic requirements. The minimum citizenship requirements were generally higher for officers than for members; (12) more council officers than representatives served for one school year while the term for representatives was generally one semester; (13) only one-fourth of the schools reported any pre-service training for their council members, and this was more prevalent in educational type councils than administrative type councils; (14) councils ranged in size from less than ten members to more than fifty members. Three-fourths of the councils had between ten and forty members, and (15) most councils met either every week or every two weeks. Meetings were generally one class period in length and were held on school time and in a regular classroom. Formal or practical parliamentary procedure was employed in nine out of ten councils. Meetings were usually open to all students and faculty members.

A total of 36,156 projects were reported by the 1,663 schools for an average of 21.74 projects per council per year. The total number of projects sponsored by student councils within each category permitted a rank ordering of these categories from most frequent to least frequent. The categories in rank order were: (1) assemblies, (2) social and recre-

ational, (3) student council finances, (4) athletics, (5) conduct and discipline, (6) interschool relations, (7) orientation, (8) general welfare, (9) school-community services, (10) citizenship, (11) welfare fund-raising, (12) school fund-raising, (13) health and safety, (14) school-community relations, (15) human relations, (16) publications, (17) international understanding, (18) student council evaluation, (19) scholarship, and (20) curriculum.

The kinds of activities undertaken by student councils seemed to be related to the primary purposes which the councils claimed to serve. Educational type councils undertook more activities in every category and with much greater frequency in the following categories than did their administrative type counterparts: (1) citizenship, (2) general welfare, (3) human relations, (4) international understanding, (5) orientation, (6) student council evaluation, (7) scholarship, and (8) school and community service.

* * * *

SPECIAL EDUCATION

SMITH, FRED FRANCIS. A Piece Study in the Development of Programs for Atypical Students at the Junior High Level. Colorado College. Master's Thesis. 1960.

Purpose: All children are entitled to a program which provides optimum opportunity for development. Many children fail to attain education because of school experiences which are negative and frustrating. This situation is true of the intellectually gifted child as well as the mentally handicapped child. In making this study, the writer had several purposes in mind. One was to trace the development of special programs for the atypical child on (1) a national scale, and (2) the local scale. A second purpose was to evaluate current practices in the education of atypical children, (1) at the junior high school in which the writer served, and (2) in the local school district. Another purpose was to indicate possible improvements in the program for atypical children (1) in the junior high school, and (2) in the school district.

As a member of the school district's curriculum committee, the writer views the thesis study as (1) a frame of reference in district curriculum planning, and (2) building curriculum planning.

Procedure: In developing the thesis, the writer (1) made an examination of the literature concerned with the historical development of programs for atypical children, (2) examined the historical development of the program for atypical children in the local school, and (3) evaluated the present program for the atypical child in terms of current educational practices.

Conclusions and Recommendations: As a result of this investigation, the following conclusions are presented: (1) recognizing and meeting the individual needs of atypical children has always been a problem of edu-

cators and continues to be a problem, (2) society has been slow to accept the concept that educational programs should be modified to make allowances for individual differences, (3) parents of physically handicapped and mentally handicapped children have been instrumental in enlightening the public in regard to the needs of atypical children, (4) rapid progress has been made in the past twenty years in making special educational provisions for the atypical child, (5) special educational provision for the atypical child came first at the community level. Although many state governments currently participate in the program, more state aid is needed. Indications are that the federal government should and will participate in the program more extensively, (6) the Colorado State Department of Education provides some financial aid for the local program of special education. Additional funds from the same source are needed for expansion of the program for the intellectually gifted and talented student, (7) the atypical student derives greatest benefit if enrolled in a special class in a regular school, because the regular school offers a more natural environment for the student than does the special community school, (8) it is increasingly evident that teachers of atypical students need broader training for their specialized work, (9) ability grouping with the mentally handicapped group working side by side with the academically talented group can function successfully at the junior high school level, and (10) innovations and improved methods of teaching students in a high ability group could be and probably should be used in teaching students in regular classes.

It was recommended that: (1) the program of the state department of education for the atypical child should be continued and the program expanded, and (2) the department should make every effort to secure tax funds to provide a state program for the academically gifted and talented student. The administration of the state program should parallel the established state program for the mentally handicapped.

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TEACHER EDUCATION

BAGLEY, HENRY LUTHER. Public Relations in State Colleges for Teacher Education in the United States. University of Colorado. Doctoral Dissertation. 1959.

Purpose: This study was undertaken, (1) to discover the current programs of public relations used by state colleges for teacher education, (2) to study forces underlying such public relations programs, (3) to formulate an analysis of trends in such college public relations, (4) to set forth a group of basic principles of college public relations as revealed in present practices, (5) to set forth criteria for evaluating these public relations programs, (6) to determine the role and status of the college public relations officer in these colleges today, (7) to make recommendations concerning present practices, to show practices most

commonly used, and (8) to suggest further studies in this field.

Procedure: Public relations policies and procedures were examined in the light of, (1) philosophy of public relations held both by college president and public relations officer, (2) status of the public relations officer and scope of his duties, (3) policies and practices underlying present college public relations programs, (4) cooperation and support given the public relations officer, (5) his professional and academic qualifications, (6) public relations problems and proposed solutions regarding the campus (student) newspaper, and (7) suggestions by public relations officers and presidents for improving present college programs and of professional associations' services.

The study involved an extensive review of literature in the field of public relations for higher education and of the broader field of higher education itself. In addition, procedures involved the development and distribution of separate questionnaires for the president and public relations officer of state colleges for teacher education. Altogether, 190 of a total of 222 state colleges in the membership of the American Association of Colleges for Teacher Education filled in and returned questionnaires.

The purposes both of the president's questionnaire and that of the public relations officer are stated above. Criteria for evaluating responses from the questionnaires were furnished by six "experts" in higher educational public relations—five of whom supplied criteria for a similar study by Alton O'Brien of Columbia University in 1949-1950. These public relations authorities were Edward Bernays, Benjamin Fine, Stewart Harral, Christopher Persons, W. Emerson Reck, and Clarence Schoenfeld.

Findings and Recommendations: Research evidence indicated that, (1) the findings of Bernays in his survey of 1948 to determine the philosophy of college presidents were completely reversed, (2) college presidents felt that the title of their officer should be "Director of Public Relations," and almost a majority of public relations officers desired vice-presidential status, (3) major weaknesses of present college public relations programs included inadequately trained personnel, lack of finances, and lack of administrational coordination, (4) although most colleges enjoyed good relations with the campus press, the student newspaper did present continual PR problems, (5) forty-one colleges have full-time public relations officers, a gain of more than 300 per cent over the eleven reported in 1949-1950 by O'Brien, (6) a majority of presidents and public relations officers considered present programs inadequate both for the present and for the immediate future, and (7) public relations officers and presidents alike were aware of public relations problems, were attempting to solve them, and were seeking aid from their professional organizations in so doing.

On the basis of the research findings, it is recommended that, (1) further public relations studies be made in privately-supported colleges, in junior colleges, and in state universities, (2) a study be made each ten years to bring up-to-date findings of this and previous studies, (3) state college public relations officers be given sufficient status, cooperation, and finances to improve present programs, (4) professional public relations

organizations constantly improve their services to member institutions, and (5) state colleges for teacher education should constantly re-evaluate and improve their public relations.

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TEACHERS' PROBLEMS—PROFESSIONAL

SILLS, THOMAS WIETT. The Effect of Classroom Observations on Teacher Satisfaction and on the Teacher's Perception of the Supervising Principal. Colorado State College. Doctoral Dissertation. 1960.

Purpose: To study the effect of ten weeks of weekly classroom observations by the supervising principal on the change in level of teacher satisfaction and on the change in how the teachers perceive the leadership behavior of the supervising principal. More specifically, answers were sought to these questions: (1) Do classroom observations by the principal have any effect on the teacher's satisfaction? (2) Do classroom observations by the principal cause a change in how the teachers perceive the principal on the two dimensions of leadership behavior measured by the "Leader Behavior Description Questionnaire, (LBDQ)"? (3) What effects do the descriptive variables of (a) age of teachers, (b) total number of years teaching experience, (c) number of years teaching experience in Corpus Christi, (d) number of years with the principal, (e) grade level taught, and (f) principal's rating of teacher effectiveness have on change in teacher satisfaction? (4) What are the effects of the descriptive variables on change in how the teachers perceive the principal's leadership behavior as indicated by the "Leader Behavior Description Questionnaire"?

Procedure: The participants for this investigation were nine randomly selected teachers from each of seven public elementary schools in Corpus Christi, Texas, whose principals agreed to participate in the study. This group of nine teachers in each school was divided into three groups of three teachers in each group.

The teachers in all three groups in each of the seven schools were administered the "Teacher Satisfaction Checklist" and the "Leader Behavior Description Questionnaire." These were administered before and after the experimental period.

Principals of the seven schools used a different method with each of the three groups of teachers in their schools. These three methods were identified as methods A, B, and C: Method A—Teachers in group A in each school did not receive any planned program of classroom observations by their principal during the experimental period. Method B—Teachers in this group in each school were observed by the principal during at least one language arts lesson (reading, spelling, writing, or English) per week for ten weeks. The principal's observations were followed by informal conferences in which the principal only praised the teaching that had occurred and did not offer any constructive criticism to the teachers in this group. Method C—Teachers in this group received weekly class-

room observations of language arts lessons followed by informal principal-teacher conferences in which the principal offered constructive criticism.

The difference between the pre-test and the post-test score was found for each of the three sets of measures. A three-part analysis of variance was used to determine if there were any significant differencs among the groups due to the effect of methods and schools for each of the three sets of measures. Additional analyses were made to determine what effect each of the descriptive variables had on the three sets of measures. The "t" test was used for various comparisons of the appropriate means.

Conclusions: The following limitations should be considered before drawing conclusions: (1) the validity of the "Teacher Satisfaction Checklist" can be questioned as the only source of empirical validity was based on the assumption that teachers rated by their principals as above average in teaching effectiveness would also be those teachers who had the highest level of teacher satisfaction. However, the checklist was developed with a logical validity in that the items in the checklist were based on factors that other researchers have found to be important to teacher satisfaction or morale; (2) the population consisted of the teachers in seven elementary schools in the Corpus Christi Independent School District; (3) it was assumed that the principals taking part in the investigation followed the methods assigned to each group.

Subject to the limitations listed above, the following conclusions were drawn from analysis of the data collected in this investigation: (1) This study failed to reject any of the null hypotheses of no significant difference among the groups on any of the three measures used in this study, except that the combination of methods and age of teachers was found to have a statistically significant effect on the change in level of teacher satisfaction and on how the teachers perceived the principal's leadership behavior on the consideration dimension of the "LBDQ." (2) Therefore, it can be concluded that the age of the teacher may be a crucial factor as to how teachers will react to the methods of classroom observations made by the principal, (3) further, it can be concluded that teacher satisfaction tended to be improved for teachers over fifty years old receiving classroom observations followed by praise and for teachers under thirty years old receiving classroom observations followed by constructive criticism when compared with no planned classroom observation for their respective age groups, and (4) it can also be concluded that when compared with no planned classroom observations, teachers over fifty years old receiving classroom observations followed by constructive criticism tended to increase their estimate of the principal's behavior that reflected friendship, mutual trust, respect, and warmth in the principal-teacher relationship.

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